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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,159	04/08/2004	Yasuo Takebe	43888-301	7042

7590 10/10/2006

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EXAMINER	
CHUO, TONY SHENG HSIANG	
ART UNIT	**PAPER NUMBER**
1745	

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/820,159	TAKEBE ET AL.	
	Examiner	Art Unit	
	Tony Chuo	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) *4-6,9,10 and 13* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7,8,11,12 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/8/04,10/6/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species 1, readable on claims 1-3, 7-8, 11-12, and 14 in the reply filed on 8/28/06 is acknowledged. Claims 4-6. 9-10, and 13 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species 2-5, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/28/06.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in Application No. 10/820,159, filed on 4/8/04.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 4/8/04 and 10/6/04 were filed on 4/8/04 and 10/6/04. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Drawings

4. The drawing filed on 4/8/04 are accepted by the examiner.

Specification

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

6. The disclosure is objected to because of the following informalities: on page 8, line 25, the phrase "a an anode" should be changed to "an anode", on page 9, line 1, the word "cathide" should be changed to "cathode". Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3 and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Bruck et al (DE 10065306.5), equivalent document (US 2004/0157095) relied upon for English translation. Regarding claim 1 and 11, the Bruck reference teaches a fuel cell module "10" comprising a fuel supply means for supplying hydrogen or hydrogen-rich gas to the anode; an air supply means; an air purification unit "40" that is provided in the air supply route of the air supply means, wherein the air purification unit "40" comprises a catalytic coating "42" that oxidizes the pollutant in the air and an adsorber "41" that adsorbs and removes the pollutant (See paragraph [0034],[0036]). Examiner's note: It is well known in the art that fuel cells are comprised of a cathode, an anode, and an electrolyte layer separating the anode from the cathode. Regarding claim 2, 3,

and 12, it also teaches a catalytic coating "42" that includes a catalyst such as platinum that has an oxidizing activity with respect to carbon monoxide (See paragraph [0034],[0036]).

9. Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Knuth et al (US 5997619). It is noted that a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See In re Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). In claim 11, the intended use of the air purifying apparatus for a fuel cell is not given patentable weight. The Knuth reference teaches air purification system "20" comprising an intermediate carbon filter "76" that oxidizes gaseous pollutants in the air and a downstream filter "66" that adsorbs any residual odors (See column 8 line 57 to column 9 line 17).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claim 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruck et al (DE 10065306.5), equivalent document (US 2004/0157095) relied upon for English

translation, as applied to claim 1 above, and further in view of Kim et al (US 6080059). However, the reference does not expressly teach a porous material that is at least one selected from the group consisting of activated carbon, alumina, zeolite, and silica and carrying at least one selected from the group consisting of permanganates, alkali salts, alkaline hydroxides, and alkaline oxides. The Kim reference teaches activated carbon, activated alumina, or zeolite impregnated with potassium permanganate that is used to remove air pollutants (See column 6, lines 55-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Bruck air purification unit to include a porous material that is at least one selected from the group consisting of activated carbon, alumina, zeolite, and silica and carrying at least one selected from the group consisting of permanganates, alkali salts, alkaline hydroxides, and alkaline oxides in order to more efficiently remove air pollutant gases by adsorption. Examiner's note: The Kim reference is pertinent to Bruck reference and the applicant's field of endeavor because it solves the same problem of purifying air by removing pollutants.

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knuth et al (US 5997619) in view of Keppel (US 2002/0139564). The Knuth reference is applied to claim 11 for reasons stated above. However, the reference does not expressly teach a first pollutant removing means that includes a catalyst that oxidizes the pollutant by means of oxygen in the air wherein the catalyst has oxidizing activity with respect to at least one selected from the group consisting of organic substances, nitrogen oxides, sulfur oxides, ammonia, hydrogen sulfide, and carbon monoxide. The Keppel reference teaches a catalyst that oxidizes carbon monoxide, nitrogen oxide, and hydrocarbon

pollutants (See paragraph [0054]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Knuth air purification system to include a catalyst that oxidizes the pollutants by means of oxygen in the air wherein the catalyst has oxidizing activity with respect to at least one selected from the group consisting of organic substances, nitrogen oxides, sulfur oxides, ammonia, hydrogen sulfide, and carbon monoxide in order to increase the pollutant removal efficiency of the air purification system.

13. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knuth et al (US 5997619) in view of Kim (US 6080059). The Knuth reference is applied to claim 11 for reasons stated above. However, the reference does not expressly teach a second pollutant removing means that adsorbs and removes the pollutant by means of a porous material carrying at least one selected from the group consisting of permanganates, alkali salts, alkaline hydroxides, and alkaline oxides. The Kim reference teaches activated carbon, activated alumina, or zeolite impregnated with potassium permanganate that is used to remove air pollutants (See column 6, lines 55-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Knuth air purification system to include a porous material that is at least one selected from the group consisting of activated carbon, alumina, zeolite, and silica and carrying at least one selected from the group consisting of permanganates, alkali salts, alkaline hydroxides, and alkaline oxides in order to more efficiently remove air pollutant gases by adsorption.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Chuo whose telephone number is (571) 272-0717. The examiner can normally be reached on M-F, 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's trainer, Susy Tsang-Foster can be reached on (571) 272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC

Susy Tsang Foster

SUSY TSANG-FOSTER
PRIMARY EXAMINER